What is claimed is:

1. An tissue implantable device, comprising:

a primary device housing;

said primary device housing having a control circuit therein;

a shielding formed around said primary device housing to shield said primary device housing and any circuits therein from electromagnetic interference;

a lead system to transmit and receive signals between a tissue region of concern and said primary device housing; and

a detection circuit to detect a phase timing of an external electromagnetic field;

said control circuit altering its operations to avoid interfering with the detected external electromagnetic field.

2. The tissue implantable device as claimed in claim 1, wherein said shielding is a metallic sheath to shield said primary device housing and any circuits therein from electromagnetic interference.

3. The tissue implantable device as claimed in claim 1, wherein said shielding is a carbon composite sheath to shield said primary device housing and any circuits therein from electromagnetic interference.

4. The tissue implantable device as claimed in claim 1, wherein said shielding is a polymer composite sheath to shield said primary device housing and any circuits therein from electromagnetic interference.

5. The tissue implantable device as claimed in claim 1, wherein said lead system comprises a fiber optic based communication system.

6. The tissue implantable device as claimed in claim 5, wherein said fiber optic communication system contains at least one channel within a multi-fiber optic bundle.

7. The tissue implantable device as claimed in claim 1, wherein said lead system comprises a plurality of electrical leads.

8. The tissue implantable device as claimed in claim 7, wherein said plurality of electrical leads have a second shielding therearound, said second shielding preventing said electrical leads from conducting stray electromagnetic interference.

9. The tissue implantable device as claimed in claim 8, wherein said second shielding is a metallic sheath to prevent said electrical leads from conducting stray electromagnetic interference.

10. The tissue implantable device as claimed in claim 8, wherein said second shielding is a carbon composite sheath to prevent said electrical leads from conducting stray electromagnetic interference.

11. The tissue implantable device as claimed in claim 8, wherein said second shielding is a polymer composite sheath to prevent said electrical leads from conducting stray electromagnetic interference.

12. The tissue implantable device as claimed in claim 7, wherein each electrical lead includes an electrical filter, said electrical filter removing stray electromagnetic interference from a signal being received from said electrical lead.

13. The tissue implantable device as claimed in claim 12, wherein said plurality of electrical leads have a second shielding therearound, said second shielding preventing said electrical leads from conducting stray electromagnetic interference.

14. The tissue implantable device as claimed in claim 13, wherein said second shielding is a carbon composite sheath to prevent said electrical leads from conducting stray electromagnetic interference.

15. The tissue implantable device as claimed in claim 13, wherein said second shielding is a polymer composite sheath to prevent said electrical leads from conducting stray electromagnetic interference.

16. The tissue implantable device as claimed in claim 1, wherein said shielding is covered with a biocompatible material.

17. The tissue implantable device as claimed in claim 5, wherein said fiber optic based communication system is covered with a biocompatible material.

18. The tissue implantable device as claimed in claim 6, wherein said multi-fiber optic bundle is covered with a biocompatible material.

19. The tissue implantable device as claimed in claim 1, wherein said primary device housing includes a microprocessor integrated circuit for controlling the operations of the tissue implantable device.

20. The tissue implantable device as claimed in claim 19, further comprising a battery power source and a battery power source measuring circuit;

said microprocessor integrated circuit automatically adjusting a value for determining an elective replacement indication condition of a battery power source such that the value is automatically adjusted by said microprocessor integrated circuit in response to a measured level of a state of said battery power source, the measured level generated by said battery power source measuring circuit connected to said battery power source.

21. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit isolates physiological signals using a noise filtering circuit.

22. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit isolates physiological signals using digital noise filtering.

23. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit is programmable from a source external of the tissue implantable device.

24. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit provides physiological diagnostics to a source external of the tissue implantable device.

25. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit provides circuit diagnostics to a source external of the tissue implantable device.

26. The tissue implantable device as claimed in claim 19, wherein said microprocessor integrated circuit is programmable from a source external of the tissue implantable device and provides circuit diagnostics to a source external of the tissue implantable device.

27. The tissue implantable device as claimed in claim 1, wherein said leads system is a combination of a fiber optic based communication system and electrical leads.

28. The tissue implantable device as claimed in claim 27, wherein said fiber optic communication system contains at least one channel within a multi-fiber optic bundle.

29. The tissue implantable device as claimed in claim 1, wherein said lead system includes a sensing and stimulation system at an epicardial-lead interface with a desired anatomical cardiac tissue region.

30. The tissue implantable device as claimed in claim 29, wherein said sensing and stimulation system includes optical sensing components to detect physiological signals from the desired anatomical cardiac tissue region.

31. The tissue implantable device as claimed in claim 29, wherein said sensing and stimulation system includes optical sensing components to detect physiological signals from the desired anatomical cardiac tissue region and electrical sensing components to detect physiological signals from the desired anatomical cardiac tissue region.

32. The tissue implantable device as claimed in claim 29, wherein said sensing and stimulation system includes electrical sensing components to detect physiological signals from the desired anatomical cardiac tissue region.

33. The tissue implantable device as claimed in claim 29, wherein said sensing and stimulation system includes optical pulsing components to

deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region.

34. The tissue implantable device as claimed in claim 30, wherein said sensing and stimulation system includes optical pulsing components to deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region.

35. The tissue implantable device as claimed in claim 29, wherein said sensing and stimulation system includes optical pulsing components to deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region and electrical pulsing components to deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region.

36. The tissue implantable device as claimed in claim 30, wherein said sensing and stimulation system includes optical pulsing components to deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region and electrical pulsing components to deliver a stimulus of a predetermined duration and power to the desired anatomical cardiac tissue region.

37. The tissue implantable device as claimed in claim 1, wherein the tissue implantable device is a cardiac assist device.

38. A method for preventing a tissue implantable device failure during magnetic resonance imaging, comprising:

(a) determining a quiet period for a tissue implantable device; and

(b) generating a magnetic resonance imaging pulse during a quiet period of the tissue implantable device.

39. The method as claimed in claim 38, wherein the implantable tissue device is a cardiac assist device.

40. A method for preventing a tissue implantable device failure due to an external electromagnetic field source, comprising:

(a) detecting a phase timing of an external electromagnetic field; and

(b) altering operations of the tissue implantable device to avoid interfering with the detected external electromagnetic field.

41. The method as claimed in claim 40, wherein the implantable tissue device is a cardiac assist device.

42. A method for preventing a tissue implantable device failure during magnetic resonance imaging, comprising:

(a) detecting a phase timing of an external magnetic resonance imaging pulse field; and

(b) altering operations of the tissue implantable device to avoid interfering with the detected external magnetic resonance imaging pulse field.

43. The method as claimed in claim 42, wherein the implantable tissue device is a cardiac assist device.